

## WHAT IS CLAIMED IS:

- 1 1. A method of handling a computer task using an  
2 intelligent agent, the method comprising the steps of:  
3 (a) based upon an objective criteria, selecting  
4 at least one selected program module from a plurality  
5 of program modules having varied degrees of domain  
6 knowledge, wherein the plurality of program modules  
7 are configured to handle a common computer task; and  
8 (b) configuring an intelligent agent to execute  
9 the at least one selected program module to handle  
10 the computer task.
- 1 2. The method of claim 1, wherein the intelligent  
2 agent includes only the selected program module from the  
3 plurality of program modules, and wherein the configuring  
4 step includes the step of constructing the intelligent  
5 agent using the selected program module.
- 1 3. The method of claim 1, wherein the intelligent  
2 agent includes each of the plurality of program modules,  
3 and wherein the configuring step includes the step of  
4 configuring the intelligent agent to execute only the  
5 selected program module to handle the computer task.
- 1 4. The method of claim 1, wherein the selecting step  
2 is performed by the intelligent agent.
- 1 5. The method of claim 1, wherein the selecting step  
2 is performed by an agent manager.
- 1 6. The method of claim 1, wherein the plurality of  
2 program modules are additive program modules, and wherein  
3 the selecting step includes the step of selecting a subset

4 of the plurality of program modules to handle the computer  
5 task.

1 7. The method of claim 1, wherein the plurality of  
2 program modules are alternative program modules, and  
3 wherein the selecting step includes the step of selecting  
4 only one of the plurality of program modules to handle the  
5 computer task.

1 8. The method of claim 1, wherein the selecting step  
2 includes the step of adaptively selecting the selected  
3 program module using a reinforcement learning algorithm.

1 9. The method of claim 8, further comprising the  
2 steps of:

3 (a) obtaining performance information relating  
4 to the performance of the selected program module in  
5 handling the computer task; and

6 (b) supplying the performance information to  
7 the reinforcement learning algorithm.

1 10. The method of claim 8, wherein the reinforcement  
2 learning algorithm is implemented in an adaptive heuristic  
3 critic neural network.

1 11. The method of claim 1, wherein the selecting  
2 step includes the steps of:

3 (a) matching each of the plurality of program  
4 modules with a value of the objective criteria;

5 (b) determining a selected value of the  
6 objective criteria; and

7 (c) selecting as the selected program module a  
8 program module matching the selected value of the  
9 objective criteria.

1 16. An apparatus for handling a computer task,  
2 comprising:  
3 an intelligent agent including at least one of a  
4 plurality of program modules having varied degrees of  
5 domain knowledge, wherein the plurality of program  
6 modules are configured to handle a common computer  
7 task, and wherein, based upon an objective criteria,  
8 at least one selected program module from the  
9 plurality of program modules is selected to handle  
10 the computer task.

1 17. The apparatus of claim 16, further comprising an  
2 evaluation module configured to select the selected  
3 program module based upon the objective criteria.

1 18. The apparatus of claim 17, further comprising a  
2 reinforcement learning module, coupled to the evaluation  
3 module and configured to adaptively select program modules  
4 based upon the performance of the plurality of program  
5 modules in handling the computer task.

1 19. The apparatus of claim 18, wherein the  
2 reinforcement learning module comprises an adaptive  
3 heuristic critic neural network.

1 20. The apparatus of claim 17, wherein the  
2 evaluation module is configured to retrieve information  
3 for a selected computer task, determine a selected value  
4 for the objective criteria for the selected computer task,  
5 and select as the selected program module one of the  
6 plurality of program modules which is matched with the  
7 selected value of the objective criteria.

1 21. The apparatus of claim 17, wherein the  
2 evaluation module is implemented in an agent manager.

1 22. The apparatus of claim 17, wherein the  
2 evaluation module is implemented in the intelligent agent.

1 23. The apparatus of claim 17, wherein the  
2 intelligent agent includes only the selected program  
3 module from the plurality of program modules, and wherein  
4 the evaluation module is configured to construct the  
5 intelligent agent using the selected program module.

6 24. The apparatus of claim 17, wherein the  
7 intelligent agent includes each of the plurality of  
8 program modules, and wherein the evaluation module is  
9 configured to execute only the selected program module to  
10 handle the computer task.

1 25. The apparatus of claim 17, wherein the plurality  
2 of program modules are additive program modules, and  
3 wherein the evaluation module is configured to select a  
4 subset of the plurality of program modules to handle the  
5 computer task.

1 26. The apparatus of claim 17, wherein the plurality  
2 of program modules are alternative program modules, and  
3 wherein the evaluation module is configured to select only  
4 one of the plurality of program modules to handle the  
5 computer task.

1 27. The apparatus of claim 16, wherein the  
2 intelligent agent is configured to conduct negotiations in  
3 an electronic commerce application, and wherein the domain  
4 knowledge for each of the plurality of program modules is  
5 related to the autonomy delegated thereto.

1 28. The apparatus of claim 27, wherein the plurality  
2 of program modules includes a semi-autonomous program  
3 module, a fully-autonomous program module, and a fully-  
4 dependent program module.

1 29. The apparatus of claim 27, wherein the objective  
2 criteria includes a risk that a dispatched agent is  
3 subjected to in negotiations.

30. A program product comprising:
- (a) a program configured to perform a computer task using an intelligent agent, the program comprising an intelligent agent including at least one of a plurality of program modules having varied degrees of domain knowledge, wherein the plurality of program modules are configured to handle a common computer task, and wherein, based upon an objective criteria, at least one selected program module from the plurality of program modules is selected to handle the computer task; and
  - (b) a signal bearing media bearing the program.

31. The program product of claim 30, wherein the signal bearing media is transmission type media.

32. The program product of claim 30, wherein the signal bearing media is recordable media.

33. A method of handling a computer task on a remote computer system using an intelligent agent, the method comprising the steps of:
- (a) determining a risk for the remote computer system;
  - (b) based upon the risk for the remote computer system, selecting at least one selected program module from a plurality of program modules having varied degrees of domain knowledge, wherein the plurality of program modules are configured to handle a common computer task in the remote computer system; and
  - (c) configuring an intelligent agent to execute the at least one selected program module to handle the computer task.

1        34. The method of claim 33, further comprising the  
2 step of matching each of the plurality of program modules  
3 with a risk level.

1        35. The method of claim 34, wherein the matching  
2 step includes the step of adaptively matching each program  
3 module based upon the actual performance of the plurality  
4 of program modules.

add A2  
add B' >

00103595:05498  
886T90:56500T60